

LOMAKIN, M.S.

Effect of homologous and immune antibodies on rabbit Brown-Pearce tumor in tissue culture. Biul.eksp.biol. i med. 42 no.9:40-44 S '56.

(MLRA 9:11)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) otdela immunobiologii (zav. - deystvitel'nyy chlen AMN SSSR prof. N.N.Zhukov-Verezhnikov) Instituta eksperimental'noy biologii (dir. - prof. I.N.Mayskiy) Predstavlena deystvitel'nyy chlenom AMN SSSR N.N.Zukovym-Verezhnikovym.

(NEOPLASMS, experimental,

Brown-Pearce carcinoma, eff. of immune serum in tissue culture (Rus))

(IMMUNE SERUMS, effects,

on Brown-Pearce carcinoma in tissue culture (Rus))

(TISSUE CULTURE,

cultivation of Brown-Pearce carcinoma, eff. of immune serums (Rus))

EXCERPTA MEDICA Sec 5 Vol 12/4 Gen. Path. Apr 59

1023. METASTASIS OF SARCOMA M-1 IN RATS. THE BIOLOGICAL PROPERTIES OF THE METASTASES (Russian text) - Lomakin M. S. - BYULL. EKSPER. BIOL. I MED. 1958, 46/7 (78-84) Tables 3 illus. 3

As a rule, sarcoma M-1 produces no metastases when inoculated s.c. After transplantation in the testis, metastases develop in the abdominal cavity. On the surface of the diaphragm these metastases show a decreased malignancy as manifested in the reduced percentage of positive inoculations and in the prolonged survival after s.c. inoculation of these metastases in rats.

(V. 16)

LOMAKIN, M.S.

Relation of antitumor antibody titer to the nature of the antigenic stimulus [with summary in English]. Biul. eksp. biol. i med. 46 no.9:92-96 S'58 (MIRA 11:11)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (dir. - prof. I.N. Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Zhukovym-Verezhnikovym.

(NEOPLASMS, immunogloy,

antibody-antigen reaction in Ehrlich adenocarcinoma & Yoshida sarcoma (Rus))

(ANTIGEN-ANTI BODY REACTION,

in Ehrlich adenocarcinoma & in Yoshida sarcoma (Rus))

EXCERPTA MEDICA Sec 16 Vol 7/9 Cancer Sept 59

3632. Some peculiarities in the growth of rat sarcoma M-1 (Russian text)
LOMAKIN M. S. Inst. of Exp. Biol. AMS, Moscow *Vopr. Onkol.* 1959, 5:1 (99-103)
Tables 1 Illus. 1

A s.c. transplant of rat sarcoma M-1 does not, as a rule, give any metastases. After inoculating sarcoma M-1 into the testis in the peritoneal cavity of experimental animals, metastases in the omentum, mesentery, diaphragm, peritoneum, on the liver and kidney surface and in the muscular tissue are observed, while no metastases directly into the inner organs (such as the liver, kidneys, lungs, lymph nodes, etc.) are noted. After i.p. inoculation of sarcoma M-1 multiple tumour nodes and an ascitic fluid of a dark brown colour develop. By injecting this ascites into the peritoneal cavity of young rats there appear ascitic cells of sarcoma M-1 that can be transplanted to young rats during 20-30 passages. The passage of ascites cells does not succeed in adult rats. After s.c. inoculation of ascitic cells into young and adult rats no tumour development is seen.

MAYSEIY, I.N., prof.; LOMAKIN, M.S., kand. biol. nauk.; FILATOV, P.P., kand. med. nau

Problem of biological principles of the metastasis of malignant tumors.
Vest. AN SSSR 14 no.2:22-33 '59. (MIRA 12:4)

1. Institut eksperimental'noy biologii AN SSSR (dir. - prof. I. N.
Mayskiy).

(NEOPLASMS, physiol.

biol. processes in metastasis, review (Rus))

LOMAKIN, M.S., kand.med.nauk; FILATOV, P.P., kand.med.nauk

Heredity and problems in human pathology. Vest.AMI SSSR 14
no.8:75-80 '59. (MIRA 12:11)
(PATHOLOGY)

MAYSKIY, I.N., prof.; LOMAKIN, M.S., kand.biolog.nauk

Some biological investigations in medicine. Vest.AMN SSSR 14 no.11:
51-61 '59. (MIRA 13:3)
(RESEARCH)

LOMAKIN, M.S. (Moskva)

Immunobiological, biological, and cytological properties of
malignant tumors in heterotransplantation and explantation.

Arkhn.pat. 21 no.7:65-72 '59.

(MIRA 13:5)

1. Iz Instituta eksperimental'noy biologii AMN SSSR.
(NEOPLASMS transplantation)

EXCERPTA MEDICA Sec 5 Vol 12/8 General Path. Aug 59

2186. CERTAIN PECULIARITIES IN METASTASIS OF EXPERIMENTAL TUMOURS (Russian text) - Lomakin M.S. Lab. of Non-Infect. Immunol. Inst. of Exp. Biol., USSR Acad. of Med. Scis, Moscow - BYULL. EKSPER. BIOL. I MED. 1959, 47/1 (62-66) Illus. 1

Metastasis of transplantable malignant tumours is a complicated process in which the localization of the primary tumour and its biological peculiarities together with other factors play an important role. Guérin rat's carcinoma, which metastasizes into internal organs both after s.c. inoculation and grafting into the testicle or into the abdominal cavity, was found to be the most suitable tumour for the study of the laws of metastasis. Rat M-1 sarcoma and Yoshida's sarcoma are the least suitable tumours in this respect.

(V, 16)

LOMAKIN, M.S.

Comparative studies on the antigenic structure of tumor and homologous normal tissues. Report No.1: Studies on the antigenic properties of Guerin's carcinoma and of normal rat uterus using the complement fixation reaction. Biul. eksp. biol. med. 47 no.5:91-95 My '59. (MIRA 12:7)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (dir. - prof. I.N. Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR N.N. Zhukovym-Verezhnikovym.

(NEOPLASMS, immunol.

complement fixation of Guerin's carcinoma & homologous normal uterine tissue (Rus))

(COMPLEMENT

fixation of Guerin's carcinoma & homologous normal uterine tissue (Rus))

LOMAKIN, H.S.

Comparative study on the antigenic structure of tumor and homologous normal tissue. Report No.2: Studies on the antigenic properties of Guerin's carcinoma and normal uterine tissues using a tissue culture method. Biul.eksp.biol. i med. 47 no.6:85-90 Je '59. (MIRA 12:8)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N.Mayskiy) Instituta eksperimental'noy biologii (dir. - prof.I.N.Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'-nym chlenom AMN SSSR N.N.Zhukovym-Verezhnikovym).

(NEOPLASMS, immunol.

antigenic properties of Gueren's carcinoma
& normal uterine tissues (Rus))

LOMAKIN, M.S.

Immunogenic properties of explants of Brown-Pearce rabbit tumor cultivated on human serum. Biul. eksp. biol. i med. 49 no.2:102-108 F '60. (MIRA 1/4:5)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (dir. - prof. I.N. Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N.Zhukovym-Verezhnikovym.
(TUMORS)

LOMAKIN, M.S.

Immunological observations in metastasing transplantable tumors.

Vop. onk. 7 no. 4:39-46 '61.

(MIRA 14:4)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof.
I.N. Mayskiy) Instituta eksperimental'noy biologii AMN SSSR
(dir. - prof. I.N. Mayskiy). Adres avtora: Moskva, ul.
Baltiyskaya, 8, Institut eksperimental'noy biologii AMN SSSR.
(CANCER)

LOMAKIN, M. S. (USSR)

"Biology of the metastasis of experimental tumours."

report submitted for the European Conference on Tumor Biology (ETCC),
Warsaw, Poland
22-27 May 1961

LOMAKIN, M. S.-Inst. of Experimental Biology, Baltiysky Street 8, Moskva

ABELEV, G.I., kand. med. nauk; BUKRINSKAYA, A.G., kand. med. nauk;
 GEL'TSER, R.R., prof.; GOLINEVICH, Ye.M., prof.; ZHDANOV, V.M.,
 prof.; ZDRODOVSKIY, P.F., prof.; KALINA, G.P., prof.; KAULEN,
 D.R., kand. med. nauk; KIKTENKO, V.S., prof.; KRYLOVA, O.P.,
 kand. med. nauk; KUCHERENKO, V.D., kand. med. nauk; LOMAKIN,
 M.S., kand. med. nauk; MOSING, G.S., doktor med. nauk; PERSHINA,
 Z.G., kand. sel'khoz. nauk; PEKHOV, A.P., doktor biol. nauk;
 PESHKOV, M.A., prof.; TIKHONENKO, T.I., kand. med. nauk;
 TOVARNITSKIY, V.I., prof.; SHEN, R.M., prof.; ETINGOF, R.N.,
 kand. med. nauk; KALININA, G.P., prof., nauchnyy red. toma;
 ZHUKOV-VEREZHNIOV, N.N., prof., otv. red.; VYGODCHIKOV, G.V.,
 prof., zamest. otv. red.; TIMAKOV, V.D., prof., zam. otv. red.
 BAROYAN, O.A., prof., red.; KALINA, G.P., red.; PETROVA, N.K.,
 tekhn. red.

[Multivolume manual on the microbiology, clinic, and epidemiology
 of infectious diseases]Mnogotomnoe rukovodstvo po mikrobiologii
 klinike i epidemiologii infektsionnykh boleznei. Moskva, Medgiz,
 Vol.2. [General microbiology]Obshchaya mikrobiologiya. Red. V.M.
 Zhdanov. 1962. 535 p. (MIRA 16:1)

(Continued on next card)

LOMAKIN, M.S., inzh.

Study by means of electronic modeling equipment of dynamic processes in the operating part of an ESh 50/125 walking excavator during the break of the bucket with the ground.
Izv. vys. ucheb. zav.; gor. zhur. 6 no.10:155-164 '63.

(MIRA 17:2)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki.

MAYSKIY, I.N., glav. red.; TONGUR, V.S., nauchn. red.;
BOGOYAVLENSKAYA, N.V., nauchn. red.; VYAZOV, G.Ye., red.;
GEORGIYEV, G.Ye., red.; DEBOV, S.S., red.; DOERCKHOFF, V.N.,
red.; ZHUKOV-VEREZHIKOV, N.N., red.; LAGUCHEV, S.S., red.;
LIOZNER, L.D., red.; LOMAKIN, M.S., red.; FUKHOV, A.P., red.;
TONGUR, V.S., red.; GOSTEV, V.S., red.

[Nucleic acids and nucleoproteins; transactions] Nukleino-
vye kisloty i nukleoproteidy; trudy. red. red. I.I. Maiskogo,
Tongura, V.S. i N.V. Bogoyavlenskoi. Moskva, Mosk. biokhim.
ob-vo, 1961. 345 p. (MIRA 17:9)

1. Konferentsiya po nukleinovym kislotam i nukleoproteidam.
1st. Moscow, 1959. 2. Institut eksperimental'noy biologii AMN
(for Tongur, Gostev). 3. Pervyy Meditsinskiy institut imeni
I.I. Sechenova, Moskva (for Debov).

LOMAKIN, M.S.; SOKOLOVA, Ye.V.

Comparative study of the antigenic structure of tumorous and normal homologous tissue. Report No.5: Study of the antigenic properties of Guerin's carcinoma, of normal rat uterus and erythrocytes using the complement fixation reaction and the tissue culture method. Biul. eksp. biol. i med. 55 no.4:94-100 (MIRA 17:10)
Ap '63.

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Zhukovym-Verezhnikovym.

LOMAKIN, M.S.; SOKOLOVA, Ye.V.

Comparative study of the antigen structure of tumorous and homologous normal tissue. Report No.4: Immunobiological characteristics of the antigen-antibody complex. Biul. eksp. biol. i med. 55 no.3: 79-85 Mr '63. (MIRA 18:2)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (direktor - prof. I.I. Mayskiy) AMN SSSR, Moskva. Submitted February 12, 1962.

LOMAKIN, M.S.; SOKOLOVA, Ye.V.

Effect of skin homotransplantation on the development of Brown-Pearce carcinoma in rabbits. Biul. eksp. biol. i med. 57 no.1: 82-85 Ja '64. (MIRA 17:10)

1. Laboratoriya neinfektsionnoy immunologii (zav. -- prof. I.N. Mayakiy) Instituta eksperimental'noy biologii AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR N.N. Zhukovym-Fe-rezhnikovym.

LOMAKIN, M.S.; SOKOLOVA, Ye.V.; FEYGEL'MAN, S.S.

Immunological properties of normal tissue antibodies. Biul.
eksp. biol. i med. 59 no.4:84-89 Ap '65.

(MIRA 18:5)

1. Laboratoriya immunologii rosta i razvitiya (zav. - prof.
I.N. Mayskiy) Instituta eksperimental'noy biologii (dir. -
prof. I.N. Mayskiy) AMN SSSR, Moskva.

1. Murakami, M. H.; Kikuchi, T. H. H.

Antigenic differences between the tumor and homologous normal tissues detected by means of serum samples. J. Immunol. 1971, 116, 1-10. (MNH 1971)

1. Laboratoriya Immunologii i Antiklov (Inv. - prof. I. H. Murakami) Institut eksperimental'noy biologii (Inv. - prof. I. H. Murakami) ANU USSR, Moscow.

SOKOLOV, Nikolay Petrovich; LOMAKIN, M.S., red.

[Hereditary diseases in man] Nasledstvennye bolezni che-
loveka. Moskva, Meditsina, 1965. 336 p. (MIRA 18:8)

LOMARIN, I. I., VERGILIMAN, S.S.; KHUMANOVA, I.I.

Comparative immunobiological characteristics of normal tissue
antibodies. Biol. eksp. biol. i med. 65 no.8:92-98 Ag '65.
(MIRA 18:9)

I. Laboratoriya neinfektsionnoy immunologii (rav.- prof.
I.I. Myaskiy) Institut eksperimental'noy biologii (dir.- prof.
I.R. Myaskiy, AN SSSR, Moskva.

LOMAKIN, M.S.; KRIVOSHEIN, Yu.S.

Metastasization of rat carcinoma "RA." Biol. eksp. biol. i med. no. 11:76-79 N '65. (MIRA 1965)

1. Laboratoriya immunologii rosta i razvitiya (zav. - prof. I.N. Mayskiy) Instituta eksperimental'noy biologii (direktor - prof. I.N. Mayskiy) AMN SSSR, Moskva. Submitted August 1, 1964.

LOMAKIN, M.S.; KRIVOSHEIN, Yu.S.

Some immunobiological peculiarities of the growth and metastasizing of induced tumors and their first passages. Neoplasma (Bratisl.) 12 no.5:495-508 '65.

1. Institute of Experimental Biology of the USSR Academy of Medical Sciences, Moscow, USSR. Submitted December 14, 1964.

KRYUKOVA, L.M.; LOMAKIN, M.S.; KUZIN, A.M.

Effect of extracts from irradiated and nonirradiated *Vicia faba*
plants on the growth of tumors and homologous normal tissues.
Radiobiologiya 1 no.3:354-357 '61. (MIRA 14:10)

1. Institut biologicheskoy fiziki AN SSSR i Institut eksperimental'noy
biologii AMN SSSR, Moskva.
(X RAYS—PHYSIOLOGICAL EFFECT) (CANCER)

KRYUKOVA, L.M.; LOMAKIN, M.S.; KUZIN, A.M.

Effect of extracts obtained from irradiated plants on the growth of different normal rat tissues and the tumor tissue of Guerin's carcinoma. Radiobiologiya 1 no.5:668-669 '61. (MIRA 14:11)

1. Institut biologicheskoy fiziki AN SSSR i Institut eksperimental'noy biologii AMN SSSR, Moskva.
(CANCER) (PLANTS, EFFECT OF RADIATION ON)

LOMAKIN, M.S.; MALINA, Yu.F.

Comparative study on the antigenic structure of tumor and homologous normal cells. Report No.3: Immunobiological characteristics of desoxyribonucleoproteins isolated from Guerin's carcinoma and normal uterus in rats. Biul. eksp. biol. i med. 51 no.3:88-93 Mr '61. (MIRA 14:5)

1. Iz laboratorii neinfektsionnoy immunologii (zav. - prof. I.N. Mayskiy) i radiobiologicheskoy gruppy (rukovoditel' - kandidat khimicheskikh nauk P.I.Tseytlin) laboratorii biokhimii (zav. - doktor khimicheskikh nauk V.S.Tongur) Instituta eksperimental'noy biologii (dir. - prof. I.N.Mayskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR N.N.Zhukovym-Verezhnikovym).
(TUMORS) (UTERUS) (NUCLEOPROTEINS)

LOMAKIN, N. D., Engineer

"Investigation of Stressed in Tube Piercing Mills." Thesis for degree of Cand.
Technical Sci. Sub 14, Jun 49, Central Sci Res Inst of Technology and Machine Building.

Summary 82, 18 Dec 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec-1949.

SOV/137-58-9-19050

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 130 (USSR)

AUTHOR: ~~Lomakin, N.D.~~

TITLE: The Forgeability of 08kp Steel with Added Titanium and Vanadium (Shtampuyemost' stali 08kp s prisadkami titana i vana-diya)

PERIODICAL: V sb.: Metallovedeniye i termich. obrabotka. Moscow, Metallurgizdat, 1958, pp 240-246

ABSTRACT: By experiments in the stamping at the ZIL and GAZ plants of 08kp steel and 08kp steel with added Ti and V manufactured at the Zaporozhstal' Plant, it is found that addition of 0.05% V to 08kp steel increases the yield of good forgings to 97.9% and reduces the number of shear-strain lines on forged parts, the intensity of those remaining being diminished. Addition of Ti does not have any favorable effect on the output of good product. It is proposed to temper-roll ordinary steel sheet just before forging; this reduces the number of shear-strain lines.

F.U.

Card 1/1

1. Steel--Forging
2. Steel--Properties
3. Titanium
- Effectiveness
4. Vanadium--Effectiveness

LOMAKIN, Nikolay Dmitriyevich; SLAVKIN, V.S., red.; OZERETSKAYA, A.L.,
red.izd-va; KLEYMAN, M.R., tekhn.red.

[Operators of blooming mills; manual for training qualified
workers in plants] Val'tsovshchik obzhimnykh stanov; uchebnoe
posobie dlia podgotovki kvalifitsirovannykh rabochikh na pro-
izvodstve. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi
i tsvetnoi metallurgii, 1960. 147 p. (MIRA 13:12)
(Forging)

LOMAKIN, Nikolay Dmitriyevich; LYAMBAKH, Romual'd Vital'yevich;
GUTNIKOV, Eduard Yul'yevich

[Complete automation of blooming mills] Kompleksnaia avtomatizatsiia obzhimnykh stankov. Moskva, Metallurgiya, 1965.
302 p. (MIRA 18:4)

NIKITENKO, M.D., inzh.; FEL'DMAN, B.A., inzh.; LOMAKA, N.P., inzh.;
BULATOV, B.I., inzh.

Using bauxite-titanium foundry pig iron. Stal' 23 no.6:573-574
Je '63. (MIRA 16:10)

11 H

LOMAKIN, P.F.
CA

The treatment of cholecystitis with cholossasa. P. F. Lomakin, N. A. Sulimovskaya and E. L. Kerner. *Soviet Vrachnyi Zhur.* 41, 1303-6 (1937); *Chem. Zentr.* 1938, II, 112. Cholossasa is a cholagog agent obtained from the rosebush pseudocarp. By its systematic use an improvement or even complete disappearance of dyspeptic symptoms, pain, subicteric discoloration and urobilinuria were observed. It was not effective in acute cases.
M. G. Moore

ASB-55A DETAILING LITERATURE CLASSIFICATION

LOMAKIN. P.F.

Lomakin, P.F., Sulimovskaya, N.A., and Luk'Yanova, N.I. "On the diagnosis and clinical treatment of lingering septic endocarditis", Vracheb. delo, 1949, No. 1, paragraphs 41-46.

SO: U-3042, 11 March 53, (Letopis 'mykh Statey, No. 9, 1949)

OLUZMAN, A.M. (Krivoy Rog, Dnepropetrovskoy obl., ul. Khkiryatova, d.10, kv.29);
LOMAKIN, P.V.

Two cases of avulsion of the shoulder girdle with spontaneous
cessation of hemorrhage. Nov.khir.arkh. no.3:93-95 My-Je
'59. (MIRA 12:10)

1. Bol'nitsa Yushnogo gornobogatitel'nogo kombinata Krivogo
Roga.

(SHOULDER GIRDLE--WOUNDS AND INJURIES)

LOMAKIN, S.A.

Methods of reducing damage on urban telephone networks. (From the experience of the Kuybyshev Main Telephone Exchange). Vest.sviazi 15 no.1:21-22 Ja'55. (MLRA 8:2)

1. Glavnyy inzhener Kuybyshevskoy gorodskoy telefonnoy seti.
(Telephone lines)

ALATORTSEV, S.A., LOMAKIN, S.M., redaktor; BYKHOVSKAYA, S.N., redaktor.

[Mining applications of electrical engineering] Gornaya elektro-
tekhnika. Izd. 2-e. Moskva, Ugletekhnizdat, 1954. 366 p. (MIRA 7:7)
(Electricity in mining) (Mining engineering)

LOMAKIN, SERGEY (1)

RYS' YEV, Anatoliy Vasil'yevich; LOMAKIN, Sergey Mikhaylovich; SHORIN, V.G.,
otvetstvennyy redaktor; KOLOMIYSEV, A.D., redaktor izdatel'stva;
PROZOROVSKAYA, V.L., tekhnicheskiiy redaktor.

[Electric locomotives, their management, and rolling stock] Elektro-
vozy, elektrovozhnoe khoziaistvo i vagonnyi park. Moskva, Ugletekhiz-
dat, 1956. 301 p. (MLRA 10:4)

(Electric locomotives) (Mine railroads)

KIRILLOV-UGRYUMOV, V.G.; MOSKVICHEV, A.M.; LOMAKIN, S.S.

Scattering of μ -mesons in beryllium. Nek. vop. inzh. fiz.
no.1:22-29 '57. (MIRA 12:5)
(Mesons--Scattering) (Beryllium)

PONOMAREV-STEPNOY, N.N.; LOMAKIN, S.S. DEGAL'TSEV, Yu.G.

Fuel element on the basis of teflon-4 for critical assemblies.
Atom. energ.15 no.3:259-260 S '63. (MIRA 16:10)

(Nuclear fuels)

ACCESSION NR: AP4020329

S/0089/64/016/003/0228/0233

AUTHOR: Ponomarev-Stepnoy, N. N.; Lomakin, S. S.

TITLE: A study of critical assemblies with a beryllium moderator

SOURCE: Atomnaya energiya, v. 16, no. 3, 1964, 228-233

TOPIC TAGS: beryllium, neutron physical property, neutron multiplication, age diffusion approximation, fission spectrum, multigroup equation, critical mass, critical assembly, photoneutron, threshold energy, deceleration

ABSTRACT: Experiments have been conducted on the critical assembly of beryllium and uranium which make it possible to determine the square of the length of deceleration of neutrons to energy levels where the moderation spectrum changes to a thermal neutron spectrum. The beryllium-containing systems require further study because of the inadequate information available on the neutron-physical properties of beryllium. The latter is characterized by a Be (n, 2n) reaction which increases the neutron multiplication factor. One of the

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51"
ACCESSION NR: AP4020329

purposes of the experimental investigation was to find necessary data of the critical dimensions required for a comparison between experimental and calculated data. The critical uranium-beryllium systems, whose dimensions had been determined experimentally, were calculated in an age-diffusion approximation and by the multigroup method on an electronic computer. The results of the critical experiments and calculations agree well with each other, and thus the multigroup system of the neutron-physical constants used in the calculations is quite satisfactory. It has also been found that, despite the possible calculation errors, the effect of the $\text{Be}(n, 2n)$ reaction is considerable and should be taken into account when calculations are made of beryllium-containing systems. Orig. art. has: 3 figures, 20 formulas, and 2 tables.

ASSOCIATION: None

SUBMITTED: 30May63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: NS

NR REF SOV: 006

OTHER: 018

Card 2/2

127630-65 EWT(m)/EPF(c)/EPF(n)-2/EWS(m)/EPR/EMP(t)/EMP(b) Pr 4/20-4/20-4
IJP(c) JD/JG/DM

ACCESSION NR: AP5004002

S/0089/65/0.0/001/0033/0040

AUTHOR: Lomakin, S. S.; Mechayev, Yu. A.

TITLE: Transient processes and measurements of the reactivity of a reactor containing beryllium 27

SOURCE: Atomnaya energiya, v. 18, no. 1, 1965, 33-40

TOPIC TAGS: reactivity power coefficient, reactor control, beryllium, photo-neutron, delayed gamma, delayed neutron

ABSTRACT: By taking into account the available published data on the half lives and yields of photoneutrons from beryllium, supplemented with calculations of the average energy of delayed gammas and photoneutrons, the authors examine the influence of the reactions $\text{Be}^9(n, 2n)\text{Be}^8$ and $\text{Be}^9(\gamma, n)\text{Be}^8$ on the transients occurring in a reactor containing beryllium nuclei. The reactor-kinetics equations are solved and the deviation of the reactor period from the asymptotic value was calculated for different reactivities and for different constant-power operating periods. In addition, the deviation was determined experimentally for a critical

Card 1/3

L 27630-65

ACCESSION NR: AP5004002

assembly with 0.1% reactivity. Optimum conditions for the measurement of reactivity were selected on the basis of these results and the positive reactivity period was measured 100--200 sec following a jump in the reactivity. The negative reactivities were also measured by an integral method. The results yielded data on the undersaturation factor and the relative contribution made to the reactivity by each group of photoneutrons, as a function of the time that the source was kept in the reactor. The efficiency of the delayed neutrons and photoneutrons was also determined experimentally by replacing the fuel with an absorber, and by determining the change in reactivity due to this replacement. It is concluded that the gamma-neutron and neutron-neutron reactions in beryllium must be taken into account in the measurement of the reactivity and in choosing the measurement conditions. If the time at constant power is on the order of 1000 sec and the period is measured 200 sec after the jump in reactivity, the deviation of the measured period from the asymptotic value does not exceed 0.1% for periods in the 10--100 sec range. "The authors thank N. N. Ponomarev-Stepnoy for valuable advice and interest in the work, and Ya. V. Shevelev for a discussion of the results." Orig. art. has: 5 figures and 22 formulas.

ASSOCIATION: None

Card 2/3

L 27630-65

ACCESSION NR: AP5004002

SUBMITTED: 24Jan64

NR REF SOV: 003

ENCL: 00

OTHER: 010

SUB CODE: NP

0

Card 3/3

LOMAKIN, S.S.; NECHAYEV, Yu.A.

Transients and reactivity measurements of a reactor containing
beryllium. Atom. energ. 18 no.1:33-40 Ja '65.

(MIRA 18:2)

ACCESSION NR: AP5019816

UW/0089/65/019/001/0069/0071

621.039.519.4

AUTHOR: Lomakin, S. S.

TITLE: Physical characteristics of a critical assembly with a beryllium-oxide moderator

SOURCE: Atomnaya energiya, v. 19, no. 1, 1965, 69-71

TOPIC TAGS: nuclear reactor core, beryllium compound, nuclear reactor moderator, reactor physics, heterogeneous nuclear reactor

ABSTRACT: This is a continuation of an earlier paper (with N. N. Ponomarev-Stepnoy, Atomnaya energiya v. 16, 228, 1964) reporting experimental and theoretical data on beryllium-moderated critical assemblies. The present article reports investigations undertaken to determine the neutron-physics characteristics of a critical assembly with a beryllium-oxide moderator. The assembly was arranged in the form of a parallelepiped consisting of beryllium-oxide blocks and plates and of flat fuel elements arranged in horizontal planes between the moderator blocks to form a flat lattice. The fuel elements were made of teflon and were described in Atomnaya energiya v. 15, 259, 1963. The assembly was made critical by adding moderator blocks and increasing the length. The effect of the neutrons reflected from the walls and structure was determined experimentally. An assembly in which the number of

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L 64761-65

ACCESSION NR: AP5019816

fuel elements and the lattice spacing was varied, was used to determine the geometrical parameter of the homogeneous mixture. The results were compared with calculations using parameters obtained by a multi-group technique. Plots of the supercriticality, of the geometrical parameter, and of the shadowing of the fuel element are presented. Some comparisons with the results obtained by others are made. "The author is grateful to H. N. Ponomarev-Stepnov for guidance, to V. A. Khodakov for reporting the Monte-Carlo calculations, and to V. N. Kosovskiy for help with the critical experiment." Orig. art. has: 3 figures and 2 tables. 4,55 [02]

ASSOCIATION: none

SUBMITTED: 28Jul64

NO REF SOV: 005

ENCL: 00

OTHER: 002

SUB CODE: NP

ATD PRESS: 4078

Card 2/2

LOMAKIN, T.P.

Lipoma of the spermatic cord. Urologia no.5:64-65 '62. (MIRA 15:12)

1. Iz urologicheskoy kliniki (nach. - prof. G.S. Grebenshchikov)
Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(SPERMATIC CORD—TUMORS)

SLYNKO, N.K.; LOMAKIN, T.P.; PINCHASOV, R.A. (Tashkent)

Use of corticosteroids and ACTH in some urological diseases.
Urologia no.4:21-24 '64. (MIRA 19:1)

USSR/Physics - Elastic-plastic strains

FD-670

Card 1/1 : Pub. 129 - 5/25

Author : Lomakin, V. A.

Title : Problem of large elastic-plastic deformations

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol. 9, No 3,
41-45, May 1954

Abstract : States that A. A. Il'yushkin's principal laws governing the
theory of small elastic-plastic deformations can be generalized
to large deformations. Gives here examples of such generalizations.

Institution : Chair of Elasticity theory

Submitted : July 10, 1953

Longman, A. A. (1964) Elastic deformation
of a thick cylinder.

The paper presents a study of the behavior of a thick cylinder subject to combinations of internal and external pressure. The material properties are assumed and the results are compared with experimental data. A table of values for the critical pressure is given. The results are compared with the general theory of the stability of a cylinder under pressure. The paper is said to have led to accurate prediction of the level of deformation at which instability was observed in an aluminum tube (p. 4-2).

R. M. Haythornthwaite (Providence, R. I.).

Kafedra Teorii uprugosti

Lomakin, V. A.

FD-1001

USSR/Physics - Elastic plastic equilibrium

Card 1/1 Pub. 85-13/16

Author : Lomakin, V. A. (Moscow)

Title : ~~Elastic-plastic equilibrium~~ Elastic-plastic equilibrium of a sphere in an unsteady temperature field

Periodical : Prikl. mat. i mekh., Vol. 19, 244-248, Mar-Apr 1955

Abstract : The author investigates the strains and stresses in an isotropic sphere in a nonstationary symmetric temperature field, with the assumption that in the range of temperatures considered the mechanical properties of the material vary but little. Three references: A. A. Il'yushin, Plasticnost, State Technical Press, 1948; P. M. Ogibalov, "Theory of plastic strains at high temperatures of the body," Vest. Mosk. un., Dec 1950; A. V. Lykov, Teoriya teploprovodnosti (Theory of Heat Conduction), State Technical Press, 1952.

Institution : --

Submitted : December 16, 1954

LOMAKIN, V. A.

Lomakin, V. A. Large strains of a tube and of a hollow sphere. *Inzen. Sb.* 21 (1955), 61-73. (Russian)

Analysis based upon finite-strain theory is given of the following problems: large plastic deformations of (a) thick-

walled circular cylindrical tubes (arbitrary constant axial strain assumed) and spherical shells under internal and external pressure and (b) thin-walled circular cylindrical tubes and spherical shells under external pressure.

Reviewer's note. Similar analysis for cylindrical tubes is due to C. W. MacGregor, L. F. Coffin and J. C. Fisher [*J. Appl. Phys.* 19 (1948), 291-297; MR 9, 482]. These problems have also been very extensively treated on the correct basis of incremental theory. [See R. Hill, *The mathematical theory of plasticity*, Oxford, 1950, Ch. V; MR 12, 303; W. T. Koiter, *Anniversary Volume on Applied Mechanics* dedicated to C. B. Biezeno, Stam, Haarlem, 1953, pp. 232-251; MR 14, 1148.] It is known in the case of cylindrical shells under internal pressure [C. W. MacGregor et al., loc. cit.], and it must also be true for spherical shells, that severe anisotropy develops during cold-work. More complete theories should therefore take account of the development and variation of anisotropy.

H. G. Hopkins (Sevenoaks).

MS 1 - F/W

Smul

LOMAKIN, V. A.

Name: LOMAKIN, V. A.

Dissertation: Some physicommechanical properties of metals and stresses
in heat treatment

Degree: Cand Phys-Math Sci

Defended at
~~Academy~~: Moscow Order of Lenin and Order of Labor Red Banner State
U imeni M. V. Lomonosov

Publication

~~Defense~~ Date, Place: 1956, Moscow

Source: Knizhnaya Letopis', No 47, 1956

Lomakin, V. A.

AUTHOR: Lomakin, V. A. (Moscow).

24-2-4/28

TITLE: Transformation of austenite during arbitrary cooling regimes. (Prevrashcheniye austenita pri proizvol'nom rezhime okhlazhdeniya).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1958, No.2, pp. 20-25 (USSR).

ABSTRACT: Numerous investigations and primarily the results of S. S. Shteynberg, G. V. Kurdyumov and their schools enabled establishing the fundamental relations governing the kinetics of transformation of austenite. Martensitic transformation and decomposition of austenite in the ferrite-cementite mixture under isothermal conditions has been studied most thoroughly. However, the problem of transformation of austenite in the ferrite-cementite mixture during continuous cooling has been studied in less detail and at present there are no satisfactory methods of calculating the degree of transformation (the quantity of the transformed phase). In this paper equations are derived for quantitative determination of the kinetics of transformation in a body of arbitrary shape with any cooling regime. Relations are derived

Card 1/4 which permit calculating the distribution of the

Transformation of austenite during arbitrary cooling regimes. 24-2-4/28

structure along the cross section of a cooled body at any instant of time, particularly in a completely cooled body. Furthermore, a number of relations are derived expressing the dependence of the parameters characterising structural transformations on various factors concerning the properties of the material, the geometry of the body and the cooling conditions. Experimental results on isothermal transformations of austenite can be expressed by means of the following functional relation:

$$t = f_1(p, T) \quad (1)$$

t being the duration of isothermal annealing at the temperature T, which is a variable parameter of the experiment and p being the degree of transformation (relative quantity of the transformed phase). After certain transformations and introducing various notations, the following relation is derived:

$$\tau = \tau_h \frac{\phi(p)}{f(\theta)} \quad (3)$$

Card 2/4 It is possible to select larger groups of steel grades

Transformation of austenite during arbitrary cooling regimes. 24-2-4/28

which possess the property that, for a given group, the functions f and ϕ are universal. The functions f and ϕ for a group including carbon steels and steels alloyed with elements which do not form carbides (nickel, manganese, cobalt and some other elements) are graphed in Figs. 1 and 2 which also contain experimental data for the various grades of steel. According to experimental data of Kurdymov (Ref.2), the degree of martensitic transformation m can be considered with sufficient accuracy to be solely a function of the temperature. Analysis of experimental data leads to the conclusion that the ratio m/m_r (m being the maximum quantity of austenite transformed into martensite) is a universal function of the parameter θ_m , as expressed by Eq.(9), p.22; this relation is graphed in Fig.3 which also contains experimental data for various grades of steel. The conditions at which a through hardening of a material is achieved have been established and Eq.(2), p.24, permits determining the maximum dimension R_m of a body which will be hardened through. The formulae derived in the paper enable theoretical investigation of various problems determined

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Transformation of austenite during arbitrary cooling regimes. 24-2-4/28
by the kinetics of the structural transformations,
namely, the progress with time of the structural
transformations for any conditions of cooling, determina-
tion of the hardenability of bodies of various shapes
under various conditions, elucidation of the condition
at which through hardening is achieved, distribution of
the structure along the cross section of a cooled body.
Some examples are included.
There are 8 figures and 3 Russian references.

SUBMITTED: November 20, 1956.

AVAILABLE: Library of Congress.

Card 4/4

V.A. LOMAKIN

16(1)

AUTHORS:

TITLE:

PERIODICAL:

ABSTRACT:

Skorzy, I.A., University Lecturer, and 507/55-59-2-33/35
Kopylov, V.D., Scientific Assistant
Lomonosov - Lectures 1957 at the Mechanical-Mathematical
Faculty of Moscow State University (Lomonosovskiy
chisl'nyy, 1957 goda na mekhaniko-matematicheskoy fakul'tete
MSU)

Vestnik Moskovskogo Universiteta. Seriya matematiki, mekhaniki,
astronomiya, fizika, khimiya, 1958, no. 2, pp. 241-246 (USSR)

The Lomonosov lectures 1957 took place from October 17 -
October 31, 1957 and 1958.

In the general case, A.N. Kolmogorov, Academician spoke
"On Approximate Representation of Functions of Several
Variables by Superposition of Functions with a Finite Number
and ϵ -Entropy of Kolmogorov, A.G. Vitushkin, ready published
the results of the investigation of the contents has been
V.A. Lomakinov. The contents of the 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 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827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 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SOV/24-58-7-2/36

AUTHOR: Lomakin, V.A. (Moscow)

TITLE: Dependence of the Shear Strength of Metals on Their Structural State (Zavisimost' soprotivleniya metallov sdvigu ot ikh strukturnogo sostoyaniya)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, 1958, Nr 7, pp 10 - 14 (USSR)

ABSTRACT: By considering a system made up of two phases, having identical elastic properties but different flow limits σ_{s1} and σ_{s2} , the overall flow limit (σ_s) of the system is obtained as:

$$\sigma_s = \sigma_{s1} [1 + Bq(1 + cs/q)^3]$$

where B and c are constants, q is the volume fraction of phase 2 and s is a dimensionless quantity characterizing the total surface of the inclusions of phase 2. The experimental results of Moroz (Ref 6) for flow limit in two-phase systems of ferrite and globular carbides, covering a wide range of q and q/s, are compared with the equation and close agreement is obtained.

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SOV/24-58-7-2/36

Dependence of the Shear Strength of Metals on Their Structural State

If $\sigma_s/q \ll 1$, the equation becomes:

$$\sigma_s = \sigma_{sl}(1 + Bq)$$

so that the relation between flow limit and q is linear. This is confirmed by the results of Pashkov (Ref 5) for the dependence of flow limit in steel on martensite content. There are 1 figure, 1 table and 6 Soviet references.

SUBMITTED: January 22, 1958

Card 2/2

L. MAKIN, U.A.

16(1):10(2) PHASE I BOOK EXHIBITION 809/2699

Atkamslym makh BSH. Institut matematiki
Inzhenerov sbornik, t. 25 (Engineering Symposium, Vol. 25) Moscow, Izd-vo
AN BSH, 1979. 216 p. First ed. 2,200 copies printed.

Ed.: A.A. Il'yushin; Ed. of Publishing House: D.M. Ioffe; Tech. Ed.:
Ye. V. Mikhlin.

PURPOSE: This book is intended for applied mathematicians, physicists and
engineers.

CONTENTS: The book is a collection of articles published by the Department of
Engineering Sciences of the Institut matematiki (Institute of Mechanics) of
the Academy of Sciences, USSR. The articles discuss various aspects of the
mechanics of materials and of fluid mechanics, such as stress and bending of
beams, shells, plates and thin-walled structures, problems of stability, problems
of the theory of elasticity, problems of the theory of plasticity, etc. The
problems are treated in a highly theoretical, i.e., mathematical, manner.
References are given at the end of each article.

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SOV/I79-59-1-14/36

AUTHOR: Lomakin, V. A. (Moscow)

TITLE: The Problem of Determination of Stresses and Deformations in Thermal Treatment (Zadacha opredeleniya napryazheniy i deformatsiy v protsessakh termicheskoy obrabotki)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 1, pp 103-110 (USSR)

ABSTRACT: When solid matter such as metal is subjected to a thermal treatment, i.e. hardening, the difference due to changes of its volume causes internal stresses. Generally, it can be said that:

- 1) Hardening produces plastic deformations, the intensity of which can reach $10\epsilon_s$ (ϵ_s - yield point).
- 2) Change of volume is caused by the structural changes and by thermal compression. Both depend on the type of steel and on the condition of cooling.
- 3) The mechanical properties of metal depend greatly on the range of temperature which reaches 800°C .

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SOV/179-59-1-14/36

The Problem of Determination of Stresses and Deformations in Thermal Treatment

4) Intensity of deformation can be expressed as a function of time. Two kinds of plastic properties of the solid matter can be distinguished: the scalar or vector kinds. In the first case the characteristic properties are determined by intensity of tension σ_i , intensity of deformation e_i and their first invariants, σ and e found from the Neumann expression

$$e = -\frac{\sigma}{3K} + \alpha(T - T_0)$$

where α - coefficient of linear expansion, K - modulus of volume compression. This expression can be written as Eq.(2.1), where 3φ denotes a free change of volume as a function of temperature and time. The specific volume V can be expressed in terms of the sum of the phase specific volumes V_j , Eq.(2.2), where P_j - weight quantity of a corresponding phase, n - number of phases. The value of free increase of volume can be found from Eq.(2.3), where V_0 - specific volume at the original state. The density ρ can be

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The Problem of Determination of Stresses and Deformations in Thermal Treatment

determined from Eq.(2.4). Thus an increase of volume and density can be determined when P_j and V_j are known. In the case of conversion of austenite structure (Refs.11 and 12) the volume of φ can be derived from Eqs.(2.2), (2.3) and (2.1) by forming the Eq.(2.5) where P and m - degree of conversion into ferrite-cementite mixture and martensite respectively, L_1, L_2, L_3 - linear functions of temperature defined from Eq.(2.6) (T_0 - original temperature, T_m - original martensite temperature, T_a - critical temperature, $\alpha_1, \alpha_2, \alpha_3$ - measured in $1/T$, γ_2, γ_3 - constants, γ - percentage of carbon content). The shear strength of metal can be determined in terms of yield point σ_s (Eq.(2.7). The relationship between intensity of tension σ_i and deformation e_i can be expressed as Eq.(2.8), where G - modulus

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SOV/179-59-1-14/36

The Problem of Determination of Stresses and Deformations in Thermal Treatment

of shear. However, in order to find a solution for Eq.(2.8), the formula (2.7) should be expressed in the form of Eq.(2.9), where T_m and T_k - temperatures of beginning and end of martensite conversion, T_a - critical temperature above which the austenite is stable, T_c - temperature of minimum stability of austenite, T_p - temperature of melting (melting point), T_s - characteristic temperature of decrease of shear resistance, P_k and m_k - maximum content of austenite converted into ferrite-cementite and martensite respectively, B - experimental constant, σ_0 , σ_{s0} - yield points of austenite and tempered steel respectively, $g(\theta_s)$ and $h(\theta^*)$ - experimental functions defining the relationship of yield points and temperature. These functions for carbon steel are shown in Figs.1 and 2. The formulae (3.1), (3.2) and (3.3) describe generally a process of active deformation. In order to apply them to the case when intensity of deformation is expressed as an arbitrary of time function, the conditions

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The Problem of Determination of Stresses and Deformations in Thermal Treatment

Eq.(3.4) should be considered. Then the value of tension and deformation could be expressed by the formula (3.5). The Eqs.(3.5) and (3.2) determine the relationship between tension and deformation of any character at any instant of time. As an example, the determination of tension of a large body is considered. It is assumed that the depth h of the heated layer is several times greater than that of the tempered interior (Fig.3). The calculation is performed by Eqs.(4.1) to (4.7) - the final solution is given by Eqs.(4.7), (4.4) and (4.5), while the temperature is defined by Eq.(4.8). Fig.4 shows the variations of the volume φ (expressing the thermal and structural changes) with time for 3 different

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The Problem of Determination of Stresses and Deformations in Thermal Treatment

depths of ξ . The distribution of the residual tension σ_1^0 is illustrated in Fig.5. There are 5 figures and 15 references, of which 13 are Soviet and 2 German.

SUBMITTED: September 4, 1958.

Card 6/6

S/123/60/000/010/006/011
A004/A001

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1960, No. 10,
pp. 126-127, # 49793

AUTHOR: Lomakin, V.A.

TITLE: Theoretical Determination of Residual Stresses at the Heat Treat-
ment of Metals ✓

PERIODICAL: V sb.: Probl. prochnosti v mashinostr. No. 2, Moscow, AN SSSR, ✓
1959, pp. 72-83

TEXT: Based on the theory of plasticity and metal science, the author investigates one of the versions of determining residual stresses, taking into account the fundamental characteristics of metal deformation during heat treatment. He presents the solution of a problem concerning a hardened cylinder. There are 2 figures and 15 references.

I.N.N.

Translator's note: This is the full translation of the original Russian abstract.

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LOMAKIN, V.A. (Moskva)

One-dimensional problem of thermal stresses in elastic-plastic
media. Inzh. sbor. 25:174-178 '59. (MIRA 13:2)
(Thermal stresses)

83216

S/055/60/000/004/004/004
C111/C333

24.4100

AUTHOR: Lomakin, V.A.

TITLE: On the Work of the Internal Forces of Deformed Solids Under Small
Deformations ✓

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya I, matematika,
mekhanika. 1960, No. 4, pp. 60-63

TEXT: For isotropic media and isothermal or reversible adiabatic processes the elementary work

$$(2) \quad \delta W = \epsilon_{ik} d\epsilon_{ik}$$

is representable as the sum

$$(3) \quad \delta W = \delta W_0 + \delta W_1,$$

where δW_0 is the elementary work of volume variation and δW_1 the elementary work of deformation, where both are complete differentials. The author investigates the possibility of the representation (3) in the general anisotropic case. He states that it is always $\delta W_0 = \int \bar{\epsilon} d\epsilon$, where $\bar{\epsilon}$ denotes the mean relative tension. Consequently δW_0 is a complete

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C111/C333

On the Work of the Internal Forces of Deformed Solids Under Small Deformations

differential only if the mean normal stress $\bar{\sigma}$ is a function of ϵ . For anisotropic media, however, this demand is not satisfied. By means of an example the author shows that W_0 in the case of a linear-elastic anisotropic medium depends on the way of deformation. The independence of the work W_0 from the way of deformation is a specific property of the isotropic media. On the other hand it is shown that in the anisotropic case W_0 contains always a part W_0' which is independent of the way of deformation.

There are 4 Soviet references.

ASSOCIATION: Kafedra teorii uprugosti (Chair of Elasticity Theory)

SUBMITTED: October 22, 1959

Card 2/2

S/179/60/000,004/009/027
E081/E141

24.4.100

AUTHOR:

Lomakin, V.A. (Moscow)

TITLE:

The Theory of Non-Linear Elasticity and Plasticity of Anisotropic Bodies

PERIODICAL:

Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, No 4, pp 60-64

TEXT:

The stress strain relationship for anisotropic materials in the elastic region is expressed by the generalised Hooke's law (1.1)

$$\sigma_{ik} = b_{ikem} \epsilon_{em}$$

in which σ_{ik} are the tensor stress components, ϵ_{em} are the tensor strain components, and b_{ikem} are the elastic constants. The stress deviator (1.2) plays an important part in the plasticity theory of isotropic materials, and a generalised deviator (1.9), valid for anisotropic materials, is derived. A similar deviator is also found for s_{ik} , the components of elastic stress (middle of page 62). The thermodynamic theory of a non-linear elastic and plastic anisotropic body is developed, leading to Eq (2.7), in

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The theory of Non-Linear Elasticity and Plasticity of
Anisotropic Bodies

which the first relationship is the generalised law of hardening,
and the second the generalised law of volume change. Eq (2.2) in
conjunction with Eq (2.7) comprises six equations, completely
determining the relationship between the stresses σ_{ik} and strains ϵ_{ik} . ✓
In the case of a linear stress-strain relationship these
equations reduce to the generalised Hooke's law; the reduction to
the isotropic case is also given (at the end of para 3).
There are 13 references: 1 German, 1 English and 11 Soviet.

SUBMITTED: November 24, 1959

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18 8200

S/180/60/000/005/022/033
E193/E183

AUTHOR: Lomakin, V.A., (Moscow)

TITLE: Similarity and Scale Model Simulation of Deformation Processes in Metals during Heat Treatment ✓

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Metallurgiya i toplivo, 1960, No.5, pp.174-180

TEXT: The difficulties of studying the phenomena taking place in the heat treatment of metal components of complex shape by either analytical or experimental methods are very great owing to the multiplicity of the phenomena involved. Experimental methods usually require destruction of the specimen. Simulation by scale models would be desirable but no similarity criteria have so far been formulated. An attempt is made to establish criteria in order to find stresses, deformations, grain structure distributions and mechanical properties in heat treated bodies. In the author's previous paper (Ref.2) a mathematical formulation for determining the stresses and deformations in heat treatment processes was given. These were derived from the equations of the theory of plasticity
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E193/E183

Similarity and Scale Model Simulation of Deformation Processes in Metals during Heat Treatment

supplemented by relations expressing the transformations taking place in heat treatment. The equations are recited and the boundary value problem for the equation of heat conductivity is formulated. The temperatures corresponding to the various metallurgical transformations are defined. The equations are then transformed into a non-dimensional form, introducing characteristic values for the stresses, deformations, displacements and dimensions of the body. It is shown that the dependence of all the non-dimensional functions upon the non-dimensional coordinates and the time is uniquely determined by the values of 14 parameters. One of these is the well known Biot Number which characterises the ratio of the internal resistance to heat flow and the resistance at the boundary of the body. Three parameters describe the transformation by diffusion. Another three parameters describe the martensitic transformation. Five parameters describe the mechanical properties and two parameters

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E193/E183

Similarity and Scale Model Simulation of Deformation Processes in Metals during Heat Treatment

describe the specific volume of the structural components. The possibility of model similarity is considered in specific cases. Generally, when cooling at an arbitrary rate in the presence of both diffusion and martensitic transformations, different materials are essential for the full scale component and the scale model. It is shown that simulation by scale models for steel components is possible in a geometrically similar body made of a steel with a different silicon or copper content. The initial heat treatment temperature and the temperature of the cooling medium are the same for the full scale and the scale model components. Formulae are given for selecting the dimensional scale and the properties of the cooling medium. In an example, increasing the silicon content of a 1% carbon steel from 0.3% to 1.3% corresponds to a dimensional scale of 2.5. In cases when there are only diffusion transformations, the scale model must equally be of different composition but, since the number of similarity criteria is smaller, many more changes in composition

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S/180/60/000/005/022/033
E193/E183

Similarity and Scale Model Simulation of Deformation Processes in Metals during Heat Treatment

qualify. In the case of through hardening, when martensitic transformations only take place, the scale model may be of the same material as the full scale component. If the temperatures are also the same, all criteria are fulfilled except the Biot Number. This latter determines the nature of the cooling medium. The limits of the scale factor are determined only by the hardenability of the steel. In the absence of structural transformations the Biot Number alone remains to be fulfilled. There are no limitations on the scale factor. Acknowledgements are made to A. A. Il'yushin for suggesting and directing the work. There are 8 Soviet references.

SUBMITTED: September 3, 1959

Card 4/4

88413

16.7300

S/055/60/000/006/007/008
C111/C222

AUTHORS: Lomakin, V.A., and Ogibalov, P.M.

TITLE: On the Calculation of Glass Plastics in the Plane State of Stress

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I. Matematika, mekhanika, 1960, No. 6, pp. 79 - 83

TEXT: The authors consider an elastic orthotropic body ; let the axes x_i be the normals of the planes of the elastic symmetry; let σ_i and ϵ_i be the normal stresses and the corresponding elongations; let τ_{ik} , γ_{ik} be the tangential stresses and shifts. Let E_i be the normal moduli of elasticity in the directions x_i , let G_{jk} be the moduli of shear in the planes (x_j, x_k) , ν_{jk} be the Poisson coefficients for a contraction in the direction x_k for a stretching in the direction x_j . Then in the plane state of stress it holds: $\sigma_3 = \tau_{23} = \tau_{31} = \epsilon_{23} = \epsilon_{31} = 0$,

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On the Calculation of Glass Plastics in the Plane State of Stress

$$(3) \quad \varepsilon_1 = \frac{1}{E_1} (\sigma_1 - \nu_{12} \sigma_2), \quad \varepsilon_2 = \frac{1}{E_2} (\sigma_2 - \nu_{21} \sigma_1), \quad \gamma_{12} = \frac{1}{G_{12}} \tau_{12}$$

and $\varepsilon_3 = -\frac{1}{E_3} (\nu_{31} \sigma_1 + \nu_{32} \sigma_2)$, where only four of the five constants appearing in (3) are independent since

$$(2) \quad \nu_{12} E_2 = \nu_{21} E_1, \quad \nu_{23} E_3 = \nu_{32} E_2, \quad \nu_{31} E_1 = \nu_{13} E_3$$

The authors report on the experimental examination of the correctness of the formulas (3) and their conclusions in the orthotropic theory for the glass extolit KACT-B (KAST - V). They investigated foils of 6 and 10 mm for a step by step load (one step 100 kg). The determination of the constants yielded the values of the table

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On the Calculation of Glass Plastics in the Plane State of Stress

	h = 10mm	h = 6mm	mean value
$E_1(\text{kg/cm}^2)$	210 000	220 000	215 000
$E_2(\text{kg/cm}^2)$	120 000	125 000	122 500
$E_{45}(\text{kg/cm}^2)$	65 000	70 000	67 500
ν_{21}	0.12	0.10	0.11

For the E - modulus and the Poisson coefficient ν for a stretching for the angle φ to the x_1 -axis, from the orthotropic theory there follow the expressions

$$\frac{E}{E_1} = \frac{a}{a \cos^4 \varphi + b \sin^2 \varphi \cos^2 \varphi + \sin^4 \varphi},$$

$$(5) \quad \nu = \frac{\nu_{21} - \frac{1}{4}(1 + a - b)\sin^2 2\varphi}{a \cos^4 \varphi + b \sin^2 \varphi \cos^2 \varphi + \sin^4 \varphi},$$

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On the Calculation of Glass Plastics in the Plane State of Stress

where

$$(6) \quad a = \frac{E_2}{E_1}, \quad b = \frac{E_2}{G_{12}} - 2\nu_{21}$$

Furthermore

$$(9) \quad \frac{G}{G_{12}} = \frac{1}{1 + \frac{1 + a - b}{b + 2\nu_{21}} \sin^2 2\varphi}$$

The figures 1,2,3 show these dependences (unbroken lines), where the mean experimental data are denoted by small circles.

(See card 6/6 for sketches 1-3)

Card 4/6

88416

S/055/60/000/006/007/008
C111/C222

On the Calculation of Glass Plastics in the Plane State of Stress

The investigation shows that $KACT - B$ can be understood as an elastic orthotropic body. Beside of the values given in the table the authors still give the following values for calculations:

$G_{12} = 20\,700 \text{ kg/cm}^2$, $\nu_{12} = 0.19$. The value E_{45} in the table is the

E-value for $\varphi = 45^\circ$.

There are 3 figures, 1 table and 4 Soviet references.

ASSOCIATION: Kafedra teorii uprugosti (Chair of Theory of Elasticity)

SUBMITTED: February 15, 1960

Card 5/6

88416

S/055/60/000/006/007/000
C111/C222

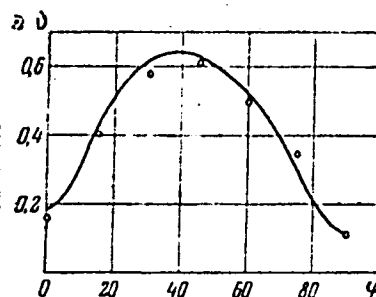
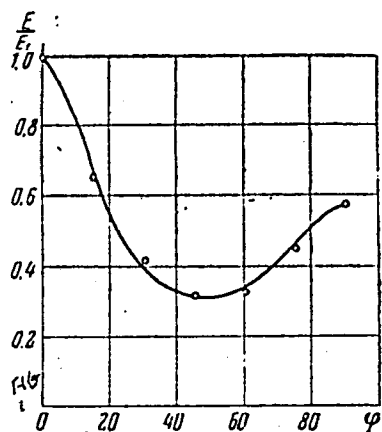


Fig. 2

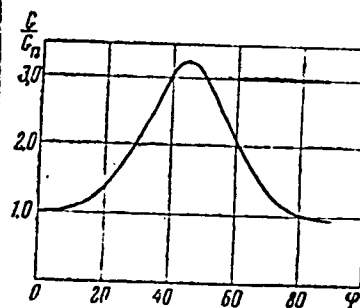


Fig. 3

Card 6/6

KUVSHINSKIY, Ye.V.; BESSONOV, M.I.; ZAKHAROV, S.K.; SIDOROVICH, A.V.;
GUBENKO, A.B.; PANFEROV, K.V.; GUL', V.Ye.; LOMAKIN, V.A.;
TSIPES, L.Ya.; CHERNYAKINA, A.P.; SAKHNOVSKIY, Z.L.; SHCHERBAK,
P.N.; AL'SHITS, I. Ya.

Answers to the inquiry concerning the determination of the physical
and mechanical properties of plastics. Zav.lab. 26 no.1:7-28
'60. (MIRA 13:5)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR. (for Kuvshinskiy Bessonov, Zakharov, and Sidorovich).
 2. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy (for Gubenko and Panferov).
 3. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova (for Gul').
 4. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova. Problemnaya laboratoriya fiziko-mekhanicheskikh svoystv polimerov (for Lomakin).
 5. Zavod "Karbolit" (for TSipes, Chernyakina and Sakhnovskiy).
 6. Gosudarstvennyy nauchno-issledovatel'skiy institut polimerizatsionnykh plastmass (for Shcherbak).
 7. TSentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (for Al'shits)
- (Plastics--Testing)

15 (8), 28 (5)

AUTHOR:

Lomakin, V. A.

S/032/60/026/01/006/052
B010/B123

TITLE:

Answers to the Inquiry About the Test Methods of the Physical
and Mechanical Properties of Plastics

IV

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol 26, Nr 1, pp 19 - 20 (USSR)

ABSTRACT:

Many methods applied to metals can also serve as test methods for plastics, however, first of all, special investigations have to be carried out in this respect. One of the specific properties of plastics is, e.g. the important influence of deformation duration upon the behavior of the material. Therefore, the rheological properties of plastics have to be thoroughly investigated and, above all, the measuring values of creep and relaxation should be systematized and analyzed in a sufficiently broad temperature and tension range. The relatively low heat conductivity characteristic of plastics should be considered during endurance tests. For the correct evaluation of test results the heat formation during the deformation process has to be investigated and its influence has to be considered. As many plastics applicable for building

Card 1/2

Answers to the Inquiry About the Test Methods of the S/032/60/026/01/006/052
Physical and Mechanical Properties of Plastics IV B010/B123

constructions show an anisotropy of mechanical properties, the type of anisotropy has to be examined. The relationship of physical and mechanical properties and the structure is very important. Therefore, the influence of orientation and regulation of chain molecules upon mechanical characteristics, and the influence of thermal processing upon the structure and physical and mechanical properties of plastics, should be investigated. Microtest methods are regarded to be especially promising after eliminating present deficiencies (primarily the heterogeneity of the material).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova.
Problemnaya laboratoriya fiziko-mekhanicheskikh svoystv
polimerov (Moscow State University imeni M. V. Lomonosov.
Research Laboratory for Physical and Mechanical Properties
of Polymers)

Card 2/2

OGIBALOV, P.M. (Moskva); LOMAKIN, V.A. (Moskva)

Mechanical properties of glass reinforced plastics. Inzh.sbor.
30:17-30 '60. (MIRA 13:10)

(Glass reinforced plastics--Testing)

15.8510

also 2409

25500

S/055/61/000/004/001/003
D219/D303

AUTHORS:

Lomakin, V.A., Ogibalov, P.M., and Tyuneyeva, I.M.

TITLE:

Time effects in glass textolite during deformation

PERIODICAL:

Moscow. Universitet. Vestnik. Seriya 1: Matematika, mekhanika, no. 4, 1961, 39-47

TEXT: The results are given of experimental investigations on short-period creep (order of magnitude--1 hour) at high stresses, and on restoration effects, in particular, retrogressive creep, carried out on standard sheets of textolite of type KAST-V (10mm thick) at room temperature. Measurements of deformation were made with a Marten's instrument giving high accuracy. If a specimen of glass textolite is stretched and then unloaded, there is a residual deformation which diminishes perceptibly with time, at first comparatively quickly, then with vanishing speed. Specimens cut at angles $\phi = 0^\circ, 45^\circ, 90^\circ$ to the base were loaded to 0.75 of the ultimate strength of the specimen in the corresponding direction, then unloaded and left thus for 24 hours, during which the deformations were registered (every minute during the first 10 minutes,

Card 1/4

Time effects in glass...

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D219/D303

every 2 minutes during the next 20 minutes, then every 5, 10, 20, 30 minutes during each hour). For each value of ϕ , 3 specimens were tested. To investigate the initial stage of creep and retrogressive creep, the specimen was loaded up to a certain tension σ_1 , remaining thus for a certain period t_1 , then unloaded and left for another period t_2 . Measurements were made during both periods. Results are given for $t_1 = t_2 = 1$ hour and different values of σ_1 . Creep is maximal in the direction of minimal rigidity ($\phi = 45^\circ$). More detailed analysis is said to show that there is anisotropy of creep similar to the anisotropy of elastic properties. Presence of creep at σ_1 changes essentially the speed and magnitude of restoration after unloading. The higher the speed of retrogressive creep, the larger is σ_1 , the duration of creep being the same (Fig. 5). If the duration of direct creep is varied, the speed of retrogressive creep is higher, the longer the former (Fig. 8). These effects were studied by varying t_1 from 5 minutes to 3 hours, t_2 being of the order of 24-48 hours. The instantaneous residual deformation (ξ_0) depends both on instantaneous

Card 2/4

Time effects in glass...

25500

S/055/61/000/004/001/003
D219/2303

deformation at loading (ϵ_m) and creep deformation (ϵ_n). Experimental data can be represented by $\epsilon_o/(\epsilon_m + \epsilon_n) = \text{const.}$ There are 8 figures, 6 tables and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Kafedra teorii uprugosti (Department of the Theory of Elasticity)

SUBMITTED: October 6, 1960

Card 3/4

LOMAKIN, V.A.; OGIBALOV, P.M.; TYUNEYEVA, I.M.

Mechanical properties of glass-cloth laminate under static loads [with summary in English]. Vest. Mosk. un. Ser. 1: Mat., mekh. 16 no.3:46-52 My-Je '61. (MIRA 14:7)

1. Kafedra teorii uprugosti Moskovskogo universiteta.
(Glass reinforced plastics)

LOMAKIN, V.A.; OGIBALOV, P.M., TYUNETIEVA, I.M.

Time effects in a glass-cloth laminate in connection with deformation
Vest.Mosk.un.Ser.1: Mat., mekh. 16 no.4:39-47 J1-Ag '61.
(MIRA 14:8)

1. Kafedra teorii uprugosti Moskovskogo universiteta.
(Glass reinforced plastics) (Deformations (Mechanics))

L 21762-65 ENT(d)/EWP(w)/EWA(d) AFWL/SSD FM
ACCESSION NR: AP4042058 S/0055/64/000/004/0049/0053

AUTHOR: Lomakin, V. A.

TITLE: On the theory of plasticity of anisotropic media

26
SOURCE: Moscow. Universitet. Vestnik. Seriya 1. Matematika, mekhanika,
no. 4, 1964, 49-53

TOPIC TAGS: plasticity, anisotropic medium, stress strain relationship, work
hardened anisotropic medium, plastic potential

ABSTRACT: Stress strain relations are proposed for work-hardening anisotropic media. The theory is based on Mises' yield condition for anisotropic media, the plastic potential hypothesis and the work-hardening hypothesis according to which the work-hardening parameter is a function of the work of stresses over plastic deformations. In the isotropic case the proposed relations coincide with Reiss' theory.

Card 1/2

L 21762-65
ACCESSION NR: AP4042058

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 22Nov63

ENCL: 00

SUB CODE: ME, MA

NR REF SOV: 009

OTHER: 004

Card 2/2

LOMAKIN, V.A.

Statistical description of the stressed state of a body undergoing deformation. Dokl. AN SSSR 155 no.6:1274-1277 Ap '64.

(MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.
Predstavleno akademikom A.Yu.Ishlinskim.

L 61463-65 EWP(e)/SWT(m)/BPF(c)/ENG(v)/EPR/ENP(j)/T Pc-4/Pe-5/Pr-4/Ps-4

ACCESSION NR: AP5012432

EN/JAS/RM

UR/0374/65/000/002/0104/0113

678:539.4.011.2

AUTHORS: Lomakin, V. A. (Moscow); Koltunov, M. A. (Moscow)

TITLE: Effect of reinforcing elements on deformation and strength of glass-reinforced plastics at extension

SOURCE: Mekhanika polimerov, no. 2, 1965, 104-113

TOPIC TAGS: glass fiber, reinforced plastic, tensile strength, polyester, resin, phenol

ABSTRACT: The aim of this work was to determine the proper relationship between the properties of reinforcing elements and binder for optimum tensile strength for glass-reinforced plastics. The calculations were based on a model representing a cylindrical bar with reinforcing elements distributed symmetrically on the periphery of the cylinder. The solution of the problem is based on an extension of the theory of N. I. Muskhelishvili (Nekotoryye osnovnyye zadachi matematicheskoy teorii uprugosti. M. 1954). The theoretical results are compared with the data of F. Brockmüller (Kunststoffe, 1954, 44, 10) for polyester resin containing 70% fiber-glass reinforcement. The calculated modulus of elasticity $E_{cal.} = 416\ 000\ kg/cm^2$

Cord 1/2